TEST REPORT

DT&C Co., Ltd.
42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No. : DREFCC2008-0210

2. Client / Applicant

   • Name : Bluebird Inc.

   • Address : 3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea (06355)

3. Use of Report : Grant of Certification

4. Product Name / Model Name : Smart POS Payment Terminal / SP500
   (FCC ID : SS4SP500)

5. Test Standard : ANSI C63.4:2014
   FCC Part 15 Subpart B
   (Communications Rcvr for use w/ licensed Tx and CBs(CXX))

6. Date of Test : Aug. 22. 2020

7. Testing Environment : Temperature (23) °C , Humidity (56) % R.H.

8. Test Result : Refer to the attached Test Result

Affirmation	Tested by Name : ChanGeun Lee	Reviewed by Name : JunHo Park

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DT&C Co., Ltd.

Aug. 24. 2020

DT&C Co., Ltd.

'This test report is not related to KS Q ISO/IEC 17025 and KOLAS accreditation.'

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

CONTENTS

1. General Remarks

This report contains the result of tests performed by :

DT&C Co., Ltd.
42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042
http://www.dtnc.net
Tel: +82-31-321-2664 Fax: +82-31-321-1664

2. Test Laboratory

DT&C Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

Certificate	Nation	Agency	Code	Remark
Accreditation	Korea	KOLAS	393	ISO/IEC 17025
	South Africa	SABS	0006	ISO/IEC 17025
	Ghana	NCA	NCA agreement 23rd,Oct,2018	-
Site Filing	USA	FCC	KR0034 101842 678747, 596748, 804488, 165783	Accredited 2.948 Listed
	Canada	IC	5740A-3 5740A-4	Registered
	Japan	VCCI	C-1427 R-3385, R-4076, R-4180, R-4496, T-1442, G-10338, G-754, G-10815, G-20051	Registered
Certification	Korea	KC	KR0034	Designation
	Germany	TUV	CARAT 089112 0006 Rev.00	ISO/IEC 17025
	Russia	RMRS	17.10189.296	ISO/IEC 17025

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competent of calibration and testing laboratory”.

3. General Information of EUT

Applicant	Bluebird Inc. 3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea (06355)
Manufacturer	Bluebird Inc. 3F, 115, Irwon-ro, Gangnam-gu, Seoul, Republic of Korea (06355)
Factory	Bluebird Inc. (SSang-young IT Twin tower-B 7~8F), 531, Dunchon-daero, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea
Product Name	Smart POS Payment Terminal
Model Name	SP500
Add Model Name	None
Add Model difference	None
FCC ID	SS4SP500
Rated Power	DC 7.26 V
Remarks	* Wireless Frequency WCDMA 850 : Tx (826.4 ~ 846.6) MHz, Rx (871.4 ~ 891.6) MHz WCDMA 1900 : Tx (1,852.4 ~ 1907.6) MHz, Rx (1,932.4 ~ 1987.6) MHz LTE Band 2 : Tx (1,850.7 ~ 1,909.3) MHz, Rx (1,930.7 ~ 1,989.3) MHz LTE Band 4 : Tx (1,710.7 ~ 1,754.3) MHz, Rx (2,110.7 ~ 2,154.3) MHz LTE Band 5 : Tx (824.7 ~ 848.3) MHz, Rx (869.7 ~ 893.3) MHz LTE Band 12 : Tx (699.7 ~ 715.3) MHz, Rx (729.7 ~ 745.3) MHz BT : (2,402 ~ 2,480) MHz WIFI 2.4 G : (2,412 ~ 2,462) MHz WIFI 5 G : (5,180 ~ 5,825) MHz

Related Submittal(s) / Grant(s)
Original submittal only

4. EUT Operations and Test Configurations

4.1 Principle of Configuration Selection

Emission :
The equipment under test (EUT) was configured to measure its highest possible radiation level.
The test modes were adapted accordingly in reference to the instructions for use.
For each testing mode different configurations were used,
Refer to the individual tests.

4.2 EUT Operation Mode

No.	Mode	Description
1	WCDMA 850	The EUT was tested while operating in WCDMA 850 Rx mode.
2	LTE 5	The EUT was tested while operating in LTE 5 band Rx mode.
3	LTE 12	The EUT was tested while operating in LTE 12 band Rx mode.
* WCDMA 850, LTE5, LTE12 bands that tune in the range of 30 MHz - 960 MHz are investigated. Only the worst case(LTE 5 band) emissions are reported.		

4.3 Test Configuration Mode

No.	Mode	Description
1	WCDMA 850	Portable Equipment
2	LTE 5	Portable Equipment
3	LTE 12	Portable Equipment

4.4 Supported Equipment

Used*	Product Type	Manufacturer	Model	Remarks
-	-	-	-	-

*Abbreviations:
AE - Auxiliary/Associated Equipment, or
SIM - Simulator

4.5 EUT In/Output Port

Name	Type*	Cable Max. >3m	Cable Shielded	Cable Back shell	Remarks
-	-	-	-	-	-

*Abbreviations:
AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
I/O = Signal Input or Output Port GND = Ground
TP = Telecommunication Ports

4.6 Test Voltage and Frequency

Case	Voltage (DC/AC-V)	Frequency (Hz)	Phases	Remarks
1	DC 7.26	-	-	Battery

5. Test Summary

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4 : 2014	**N/A**
Radiated Disturbance	ANSI C63.4 : 2014	**C**
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		
Note 1) These test are not required because EUT is portable equipment.		

The data in this test report are traceable to the national or international standards.

-Conducted Disturbance

Frequency [MHz]	Phase	Result [dBµV]	Detector	Limit [dBµV]	Margin [dB]
-	-	-	-	-	-

-Radiated Disturbance

Frequency [MHz]	Pol.	Result [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]
39175.070	V	47.53	Cispr - Average	54.00	6.47

6. Test Environment

Test Items	Test date (YYYY-MM-DD)	Temp. (℃)	Humidity (% R.H.)	Pressure (kPa)
Radiated Disturbance	2020-08-22	23	56	-

7. Test Results : Emission

7.1 Conducted Disturbance

ANSI C63.4	Mains terminal disturbance voltage	Result
Method: The AMN placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0,8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. The measuring port of the LISN for EUT was connected to spectrum analyzer. Using conducted emission test software, the emissions were scanned with peak detector mode. After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and CISPR Average detector. For (0.15 ~ 30) MHz frequency range, Quasi-Peak detector with 10 kHz RBW and 30 kHz VBW was used. By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission.		**Not Applicable**

Fully configured sample scanned over the following frequency range	**Frequency range on each side of line**	**Measurement Point**
	150 kHz to 30 MHz	**Mains**
EUT mode (Refer to clauses 4)	**Test configuration mode**	**N/A**
	EUT Operation mode	**N/A**
	Power interface mode	**N/A**

Limits – Class A

Frequency (MHz)	**Limit dBµV**	
	Quasi-Peak	**Average**
0.15 to 0.50	79	66
0.50 to 30	73	60

Limits – Class B

Frequency (MHz)	**Limit dBµV**	
	Quasi-Peak	**Average**
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Measurement Instrument					
Description	**Model**	**Manufacturer**	**Identifier**	**Cal. Date**	**Cal. Due**
-	-	-	-	-	-

Mains terminal disturbance voltage _Measurement data			
Test configuration mode	**N/A**	**EUT Operation mode**	**N/A**
Test voltage (V)	**N/A**	**Test Frequency (Hz)**	**N/A**

Calculation

N : Neutral phase, L1 : Live phase
C.FACTOR(dB) : Pulse Limiter(dB) + Cable loss(dB) + Insertion loss of LISN(dB)
Result(dBμV) : Reading Value(dBμV) + C.FACTOR(dB)
Margin(dB) : Limit(dBμV) - Result(dBμV)

7.2 Radiated Disturbance

ANSI C63.4	Radiated disturbance 30 MHz – XX GHz	Result
Method: Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10 or 3 meter below 1GHz and 3 meter above 1GHz. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in horizontal and vertical polarities. Final measurements were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4 m. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable. For final measurement below 1 GHz frequency range, Quasi-Peak detector with (RBW = 120 kHz Bandwidth) was used. For final measurement above 1 GHz frequency range, Peak detector with (RBW = 1 MHz Bandwidth) and CISPR Average detector with (RBW = 1 MHz Bandwidth) were used.		**Comply**

EUT mode (Refer to clauses 4)	**Test configuration mode**	**2**
	EUT Operation mode	**2**
	Power interface mode	**1**

Radiated Disturbance below 1 000 MHz

Frequency range (MHz)	**Quasi-peak limit dBµV/m**		
	Class A		**Class B**
	3 m distance	**10 m distance**	**3 m distance**
30 to 88	49.1	39.1	40
88 to 216	53.5	43.5	43.5
216 to 960	56.4	46.4	46
960 to 1 000	59.5	49.5	54

According to 15.109(g), as an alternative to the radiated emission limit shown above, digital devices may be shown to comply with the standards(CISPR), Pub. 22 shown as below.

Frequency range (MHz)	**Quasi-peak limit dBµV/m**	
	Class A (10 m distance)	**Class B (10 m distance)**
30 to 230	40	30
230 to 1 000	47	37

Radiated Disturbance for above 1 000 MHz at a measurement distance of 3 m

Frequency range (GHz)	**Peak limit dBµV/m**		**Average limit dBµV/m**	
	Class A	**Class B**	**Class A**	**Class B**
1 to 40	80	74	60	54

The test frequency range of Radiated Disturbance measurements are listed below.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	**Upper frequency of measurement range (MHz)**
Below 108	1 000
108 – 500	2 000
500 – 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

Measurement Instrument					
Description	**Model**	**Manufacturer**	**Identifier**	**Cal. Date**	**Cal. Due**
MEASUREMENT SOFTWARE	EMI-R VER. 2.00.0177	TSJ	N/A	N/A	N/A
EMI TEST RECEIVER	ESU40	ROHDE&SCHWARZ	100525	2019.12.20	2020.12.20
TRILOG BROAD BAND ANTENNA	VULB9160	SCHWARZBECK	9160-3339	2018.10.22	2020.10.22
6DB ATTENUATOR	2708A	HP	18403	2018.10.22	2020.10.22
LOW NOISE PRE AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2020.02.13	2021.02.13
HORN ANTENNA	3117	ETS-LINDGREN	00152093	2020.03.26	2021.03.26
PRE AMPLIFIER	8449B	H.P	3008A00887	2019.08.26	2020.08.26
HORN ANTENNA WITH PREAMPLIFIER	EM-6969	ELECTRO-METRICS	156	2019.02.13	2021.02.13
	MLA-0618-B03-34	TSJ	1785642	2019.12.31	2020.12.31
HORN ANTENNA WITH PREAMPLIFIER	3116C	ETS-LINDGREN	00213177	2019.12.12	2021.12.12
	JS44-18004000-35-8P	L3 NARDA-MITEQ	2046884	2019.11.04	2020.11.04
(NOTE : THE MEASUREMENT ANTENNAS WERE CALIBRATED IN ACCORDANCE TO THE REQUIREMENTS OF C63.5-2017.)					

Radiated disturbance at (30 ~ 1000) MHz _Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

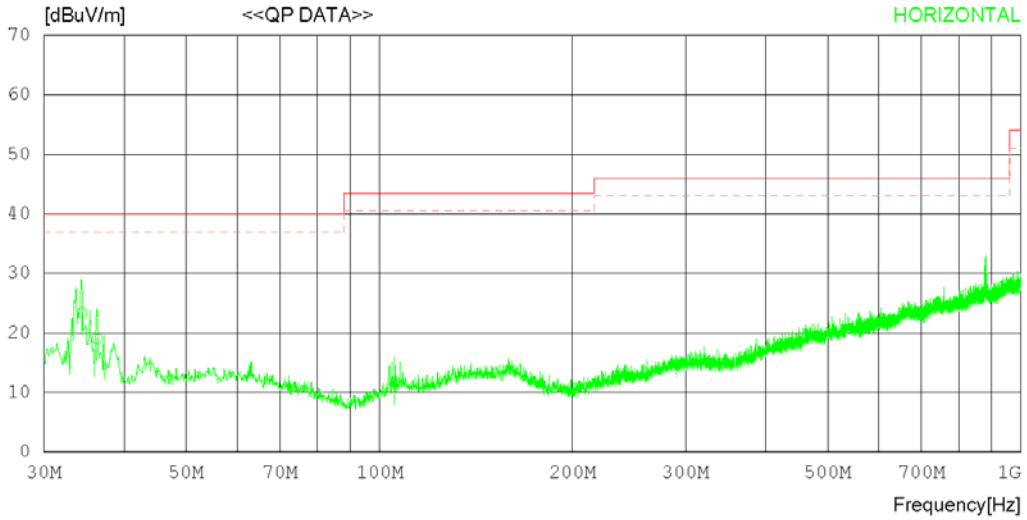
RADIATED EMISSION

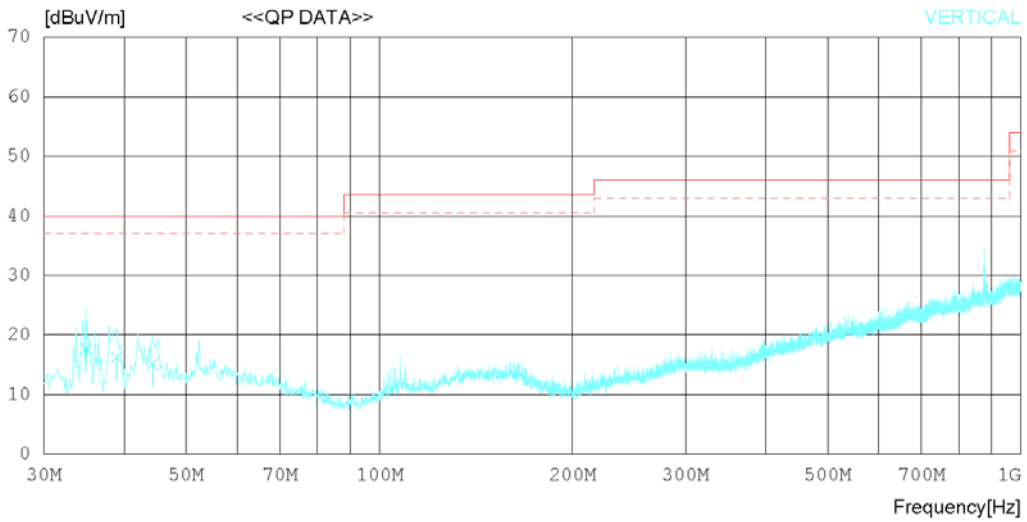
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	34.365	33.50	15.74	0.64	26.54	23.34	40.00	16.66	300	357
2	36.305	28.90	16.03	0.66	26.55	19.04	40.00	20.96	301	351
3	105.538	21.10	15.91	1.50	26.83	11.68	43.50	31.82	306	278
----- Vertical ------										
4	34.850	27.80	15.79	0.64	26.54	17.69	40.00	22.31	297	320
5	38.973	25.30	16.79	0.67	26.56	16.20	40.00	23.80	102	123
6	44.308	23.40	17.63	0.70	26.59	15.14	40.00	24.86	305	0

Radiated disturbance at (1 ~ 6) GHz _ Peak Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

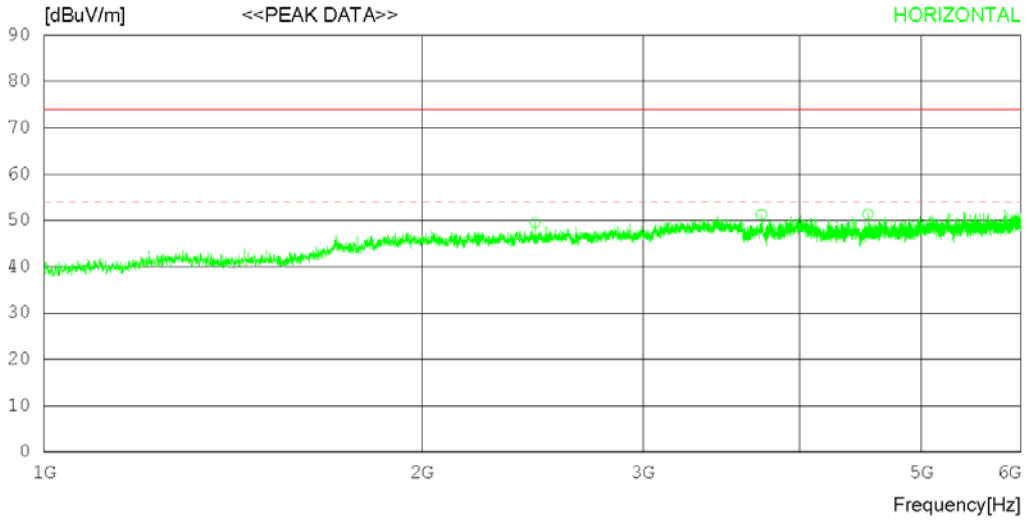
RADIATED EMISSION

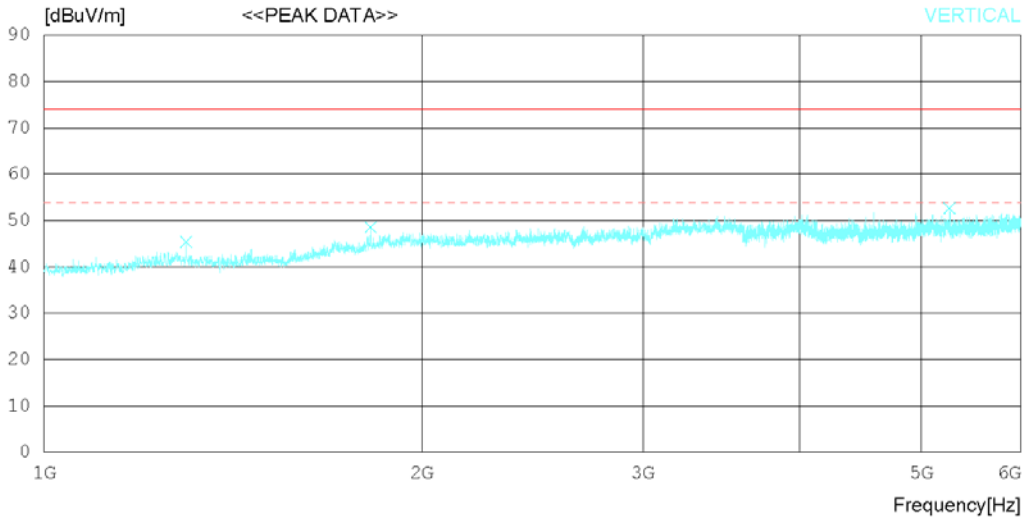
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	2460.000	44.80	32.20	7.17	34.61	49.56	74.0	24.44	104	197
2	3726.875	43.00	33.40	8.78	33.92	51.26	74.0	22.74	205	358
3	4532.500	42.10	33.90	9.60	34.24	51.36	74.0	22.64	201	355
----- Vertical ------										
4	1297.500	46.30	29.31	5.13	35.33	45.41	74.0	28.59	205	300
5	1820.000	45.60	30.52	7.02	34.59	48.55	74.0	25.45	102	1
6	5264.375	42.80	34.40	10.37	34.90	52.67	74.0	21.33	103	1

Radiated disturbance at (1 ~ 6) GHz _ Average Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

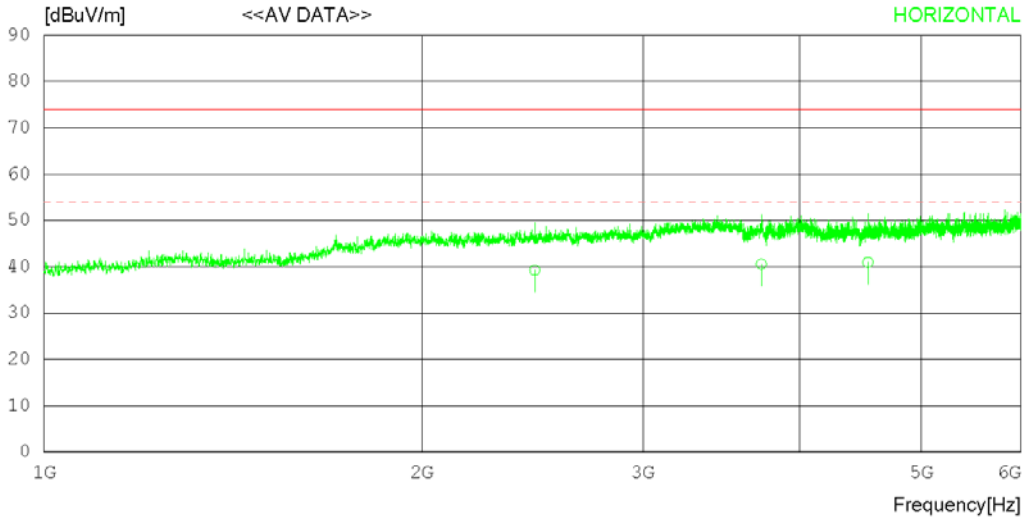
RADIATED EMISSION

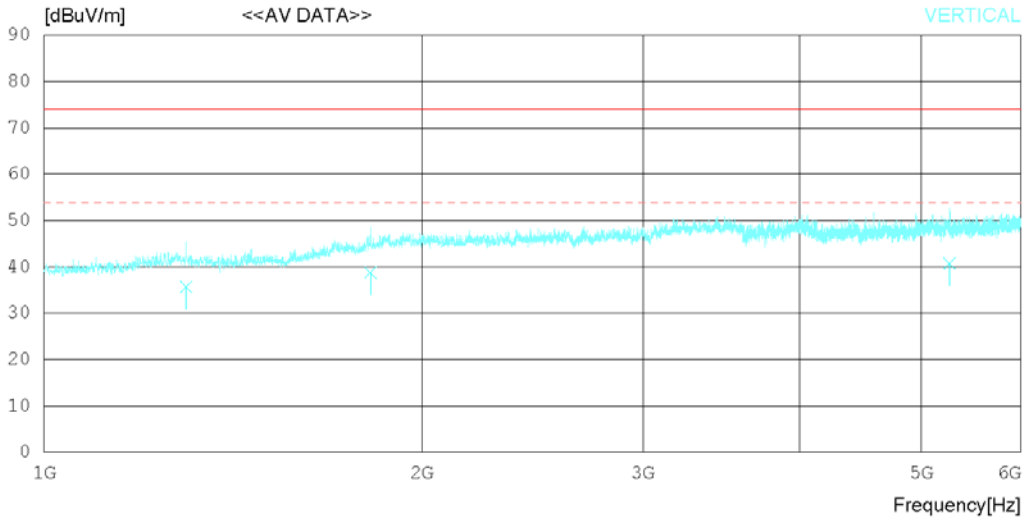
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	2460.120	34.50	32.20	7.17	34.61	39.26	54.00	14.74	103	203
2	3726.885	32.30	33.40	8.78	33.92	40.56	54.00	13.44	201	352
3	4532.433	31.70	33.90	9.60	34.24	40.96	54.00	13.04	205	344
----- Vertical ------										
4	1297.570	36.60	29.30	5.13	35.33	35.70	54.00	18.30	207	308
5	1820.140	35.80	30.52	7.02	34.59	38.75	54.00	15.25	104	0
6	5264.325	30.90	34.40	10.37	34.90	40.77	54.00	13.23	105	0

Radiated disturbance at (6 ~ 18) GHz _ Peak Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

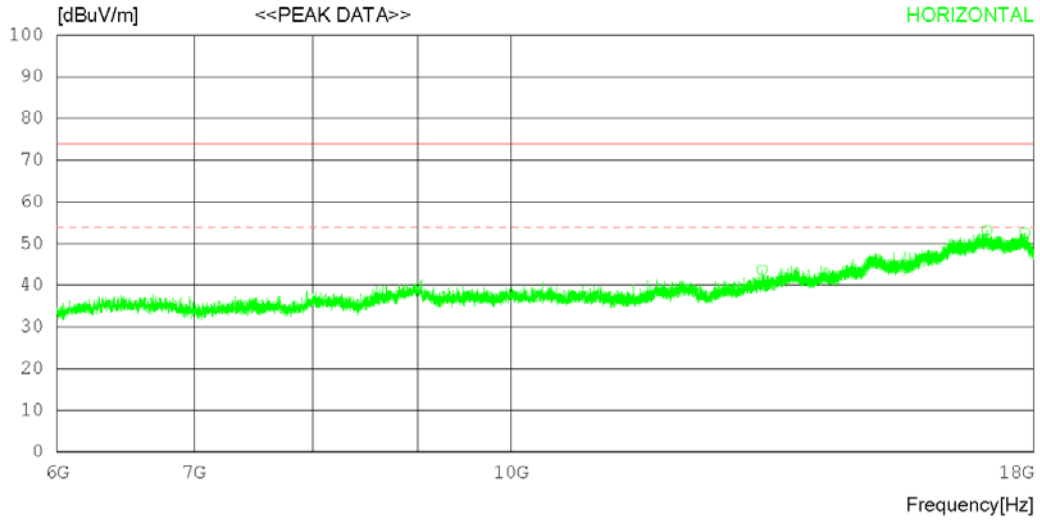
RADIATED EMISSION

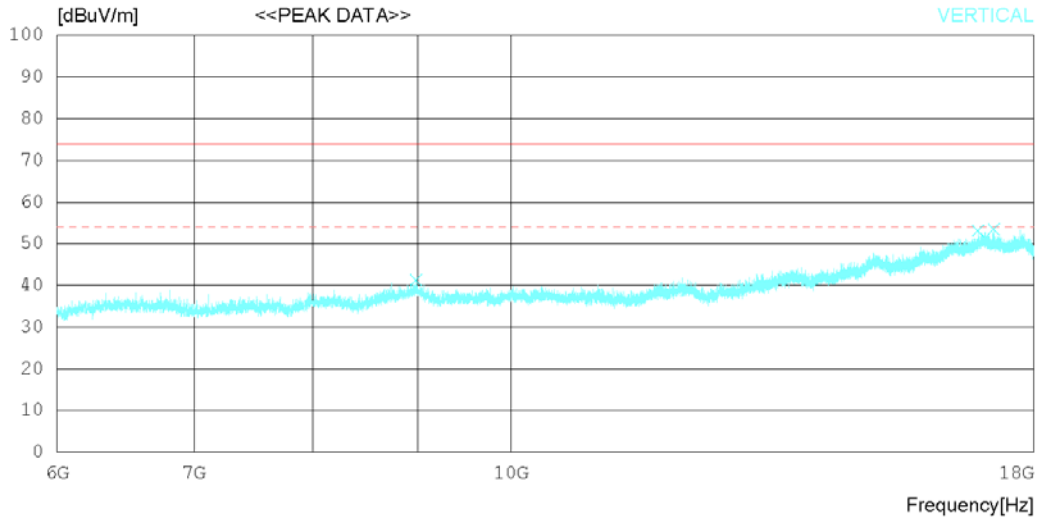
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	13260.000	30.60	33.64	17.09	37.64	43.69	74.0	30.31	102	230
2	17073.750	28.80	37.61	23.23	36.49	53.15	74.0	20.85	103	0
3	17816.250	29.20	38.18	22.73	37.51	52.60	74.0	21.4	207	179
----- Vertical ------										
4	8982.750	31.20	32.09	15.48	37.49	41.28	74.0	32.72	202	33
5	16905.750	29.00	37.44	23.01	36.34	53.11	74.0	20.89	196	0
6	17210.250	30.20	37.71	22.21	36.65	53.47	74.0	20.53	107	349

Radiated disturbance at (6 ~ 18) GHz _ Average Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

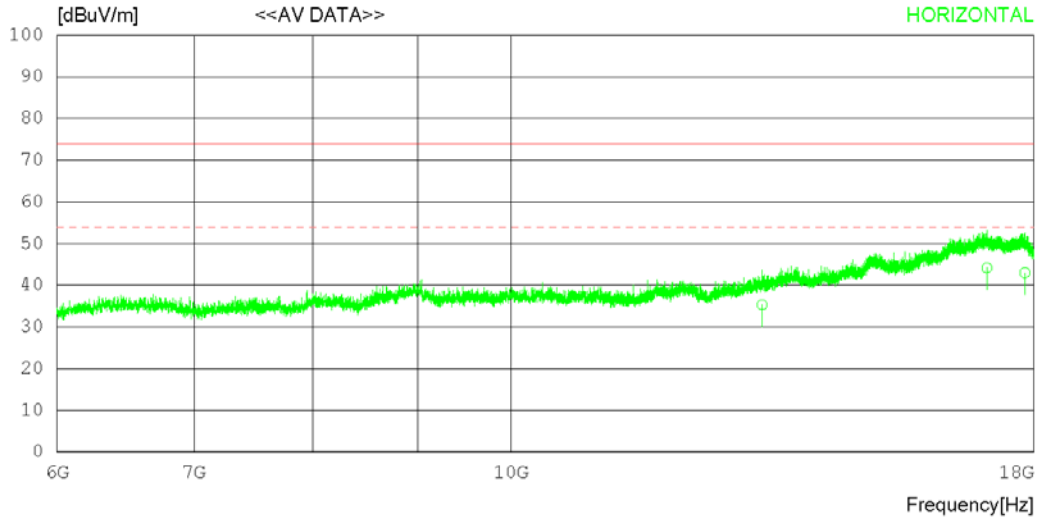
RADIATED EMISSION

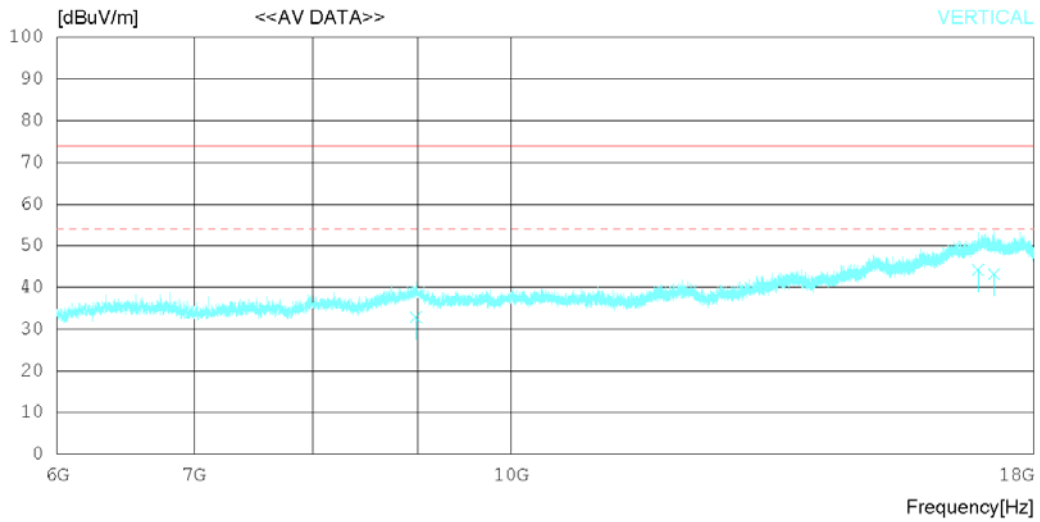
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	13260.080	22.20	33.64	17.09	37.64	35.29	54.00	18.71	101	237
2	17073.720	19.80	37.61	23.23	36.49	44.15	54.00	9.85	102	0
3	17816.210	19.60	38.18	22.73	37.51	43.00	54.00	11.00	206	188
----- Vertical ------										
4	8982.770	22.80	32.09	15.48	37.49	32.88	54.00	21.12	202	25
5	16905.680	20.10	37.44	23.01	36.34	44.21	54.00	9.79	193	0
6	17210.210	19.90	37.71	22.21	36.65	43.17	54.00	10.83	105	355

Radiated disturbance at (18 ~ 40) GHz _ Peak Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

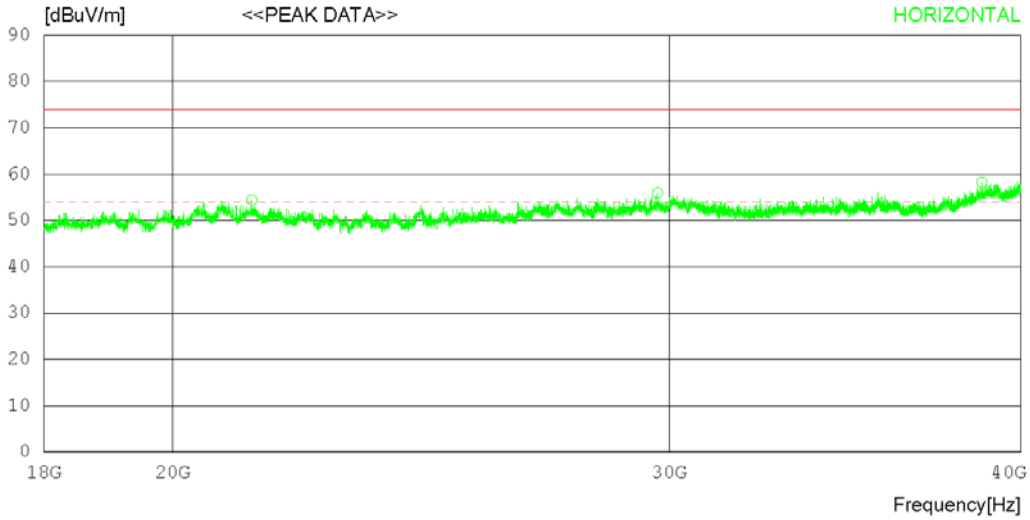
RADIATED EMISSION

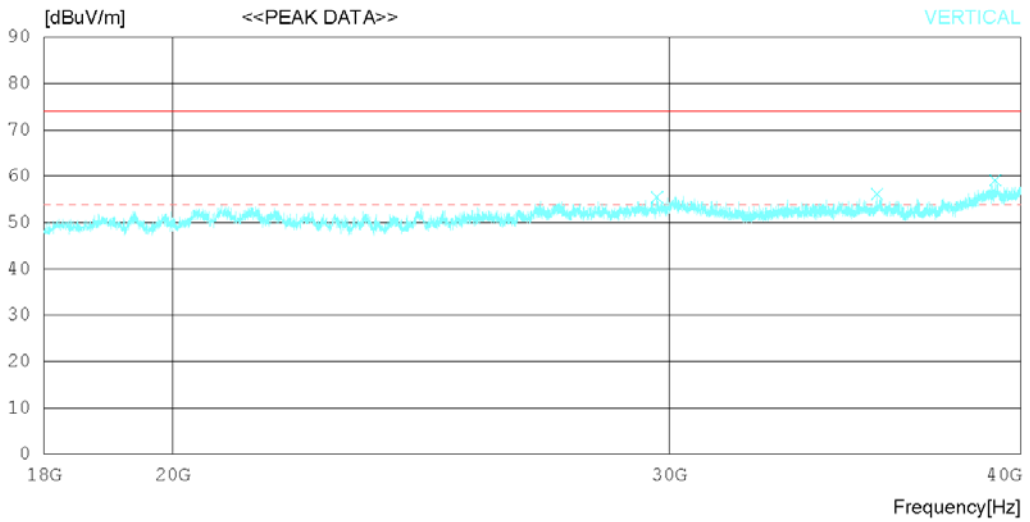
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	21330.250	42.20	45.47	20.32	53.60	54.39	74.0	19.61	107	236
2	29723.250	38.80	47.52	21.86	52.29	55.89	74.0	18.11	216	100
3	38737.750	37.80	47.24	25.47	52.26	58.25	74.0	15.75	206	356
----- Vertical ------										
4	29706.750	38.40	47.51	21.86	52.30	55.47	74.0	18.53	198	1
5	35567.000	38.90	47.00	24.06	53.79	56.17	74.0	17.83	106	1
6	39175.000	38.00	47.85	25.52	52.24	59.13	74.0	14.87	101	61

Radiated disturbance at (18 ~ 40) GHz _ Average Measurement data			
Test configuration mode	**2**	**EUT Operation mode**	**2**
Test voltage (V)	**Battery**	**Test Frequency (Hz)**	**-**

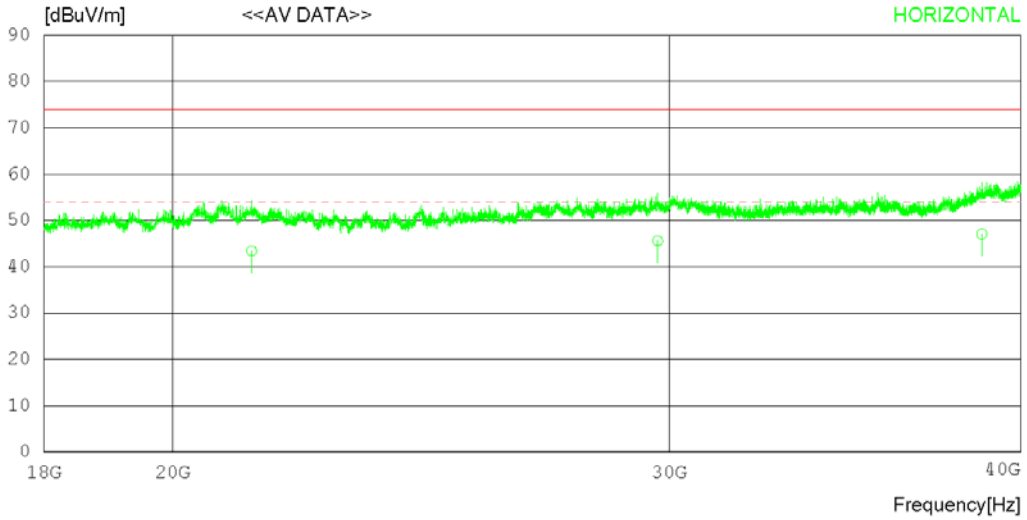
RADIATED EMISSION

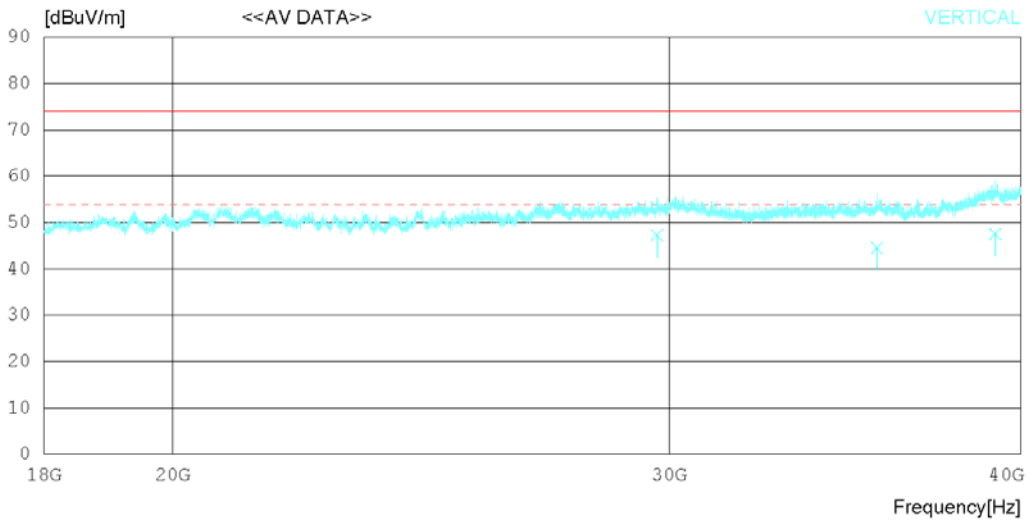
Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)





RADIATED EMISSION

Date 2020-08-22

Order No. DTNC2001-00359
Power Supply Battery
Temp/Humi 23 'C 56 %.R.H.
Test Condition LTE 5 Mode

Memo

LIMIT : FCC Part15 Subpart.B Class B (3m) - GHz(Peak)
FCC Part15 Subpart.B Class B (3m) - GHz(Average)

No.	FREQ [MHz]	READING CAV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	21330.220	31.20	45.47	20.32	53.60	43.39	54.00	10.61	108	244
2	29723.170	28.50	47.52	21.86	52.29	45.59	54.00	8.41	213	105
3	38737.720	26.60	47.24	25.47	52.26	47.05	54.00	6.95	202	342
----- Vertical ------										
4	29706.720	30.20	47.51	21.86	52.30	47.27	54.00	6.73	196	0
5	35567.130	27.20	47.00	24.06	53.79	44.47	54.00	9.53	101	0
6	39175.070	26.40	47.85	25.52	52.24	47.53	54.00	6.47	105	78

Calculation

Result(dBμV/m) : 30 ~ 1G : Reading Value(dBμV) + Cable loss(dB) - Pre amplifier gain(dB) + Ant. Factor(dB)
1 ~ 6 G : Ant. Factor = Ant. Factor - Pre amplifier gain
Margin(dB) : Limit(dBμV/m) - Result(dBμV/m)

8. Revision History

Date	Description	Revised By	Reviewed By
Aug. 24. 2020	Initial report	ChanGeun Lee	JunHo Park

-End of test report-